

WE CLAIM:

1. An optical system, comprising:
- a broadband source for providing a broadband optical signal; and
- a chirped Bragg grating etalon, responsive to the broadband optical signal, for providing a chirped Bragg grating etalon optical signal having a precise set of the optical reference signals.
2. An optical system according to claim 1, wherein the chirped Bragg grating etalon includes a pair of chirped Bragg gratings.
3. An optical system according to claim 2, wherein the precise set of the optical reference signals is determined by the spacing of the chirped Bragg gratings of the chirped Bragg grating etalon.

4. An optical system according to claim 1, wherein the precise set of the optical reference signals includes a series of peaks covering most of a source spectral width of the broad optical source signal with the power at the beginning and end of the spectrum passed unaffected by the chirped Bragg grating etalon due to the limited bandwidth thereof.

5. An optical system according to claim 1, wherein the optical system further comprises an optical filter that responds to the chirped Bragg grating etalon optical signal, for providing an optical filter signal having the precise set of the optical reference signals.

6. An optical system according to claim 5, wherein the optical filter includes an optical bandpass filter.

7. An optical system according to claim 5, wherein the optical filter includes an additional Bragg grating.

8. An optical system according to claim 5, wherein the optical filter includes a long-period Bragg grating.

9. An optical system according to claim 5, wherein the optical filter includes a selective dielectric filter.

5 10. An optical system according to claim 9, wherein the selective dielectric filter is a Bragg grating.

11. An optical system according to claim 1, wherein the optical system further comprises an optical bandpass filter that responds to the chirped Bragg grating etalon optical signal, for providing an optical bandpass filter signal.

12. The optical system according to claim 1, further comprising:

an optical filter, responsive to the chirped Bragg grating etalon optical signal, for providing at least a portion of the precise set of the optical reference signals to an output port.

13. The optical system according to claim 12, further comprising:

an optical directional device for directing the chirped Bragg grating etalon optical signal to the optical filter, and directing the at least a portion of the precise set of the optical reference signals to the output port.

14. The optical system according to claim 13, wherein the optical directional device includes one of an optical circulator and an optical coupler.

5 15. The optical system according to claim 12, wherein the optical filter includes a Bragg grating filter for reflecting the at least a portion of the precise set of the optical reference signals to an output port.

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